

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Tony W. Ho, Gene C. Kopen, William F. Richter, J. Lynn Rutkowski and Joseph Wagner

Application No.: 09/960,244

Group Art Unit: 1633

Filed: September 21, 2001

Examiner: Not yet assigned

Title: "Cell Populations Which Co-Express CD49c and CD90"

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CERTIFICATE OF MAILING	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231	
on Jan. 22, 2002	Betsy S. Kirschner
Date	Signature
Betsy S. Kirschner	
Typed or printed name of person signing certificate	

INFORMATION DISCLOSURE STATEMENT

Assistant Commissioner for Patents

Washington, D.C. 20231

Sir:

This Information Disclosure Statement is submitted:

☐ under 37 CFR 1.129(a), or

(First/Second submission after Final Rejection)

☒ under 37 CFR 1.97(b), or

(Within any one of the following time periods: three months of filing national application (other than a CPA) or date of entry of the national stage in an international application; or before the mailing date of a first office action on the merits in a non-provisional application, including a CPA, or a Request for Continued Examination).

☐ under 37 CFR 1.97(c) together with either:

☐ a Statement under 37 CFR 1.97(e), as checked below, or

☐ a \$180.00 fee under 37 CFR 1.17(p), or

(After the 37 CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)

☐ under 37 CFR 1.97(d) together with:

☐ a Statement under 37 CFR 1.97(e), as checked below, and

☐ a \$180.00 fee under 37 CFR 1.17(p), or

(Filed after final action or notice of allowance, whichever occurs first, but on or before payment of the issue fee)

☐ under 37 CFR 1.97(i):

Applicant requests that the IDS and cited reference(s) be placed in the application filewrapper.

(Filed after payment of issue fee)

Statement Under 37 CFR 1.97(e)

- ☐ Each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement; or
- ☐ No item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned, after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

Statement Under 37 CFR 1.704(d) (Patent Term Adjustment)

Applies to original applications (other than design) filed on or after May 29, 2000

- ☐ Each item of information contained in the Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in § 1.56(c) more than thirty days prior to the filing of the Information Disclosure Statement.
- ☒ Enclosed herewith is form PTO-1449:
  - ☒ Copies of the cited references (AA-AJ, AL-AM, AR-AZ, AR2-AZ2 and AR3-AY3) are enclosed.
  - ☐ Copies of cited references are enclosed except those entered in prior application, U.S. Application No. [ ], to which priority under 35 U.S.C. 120 is claimed. [The earlier application contains copies of the cited references.]
  - ☐ The listed references were cited in the enclosed International Search Report in a counterpart foreign application.
  - ☐ The "concise explanation" requirement (non-English references) for reference(s) [ ] under 37 CFR 1.98(a)(3) is satisfied by:
    - ☐ the explanation provided on the attached sheet.
    - ☐ the explanation provided in the Specification.
    - ☐ submission of the enclosed International Search Report.
    - ☐ the enclosed English language abstract.

☐ Applicant requests that the following non-published pending applications be considered:

Examiner's  
Initials

\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]  
\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]  
\_\_\_\_ U.S. Patent Application No. [ ], by [inventor(s)], filed [ ], Docket No.: [ ]

\_\_\_\_\_  
Examiner

\_\_\_\_\_  
Date

☐ A copy of each above-cited application, including the current claims, is enclosed.

☐ A copy of each above-cited application, including the current claims, is enclosed, except those entered in prior application, U.S. Application No. [ ], to which priority under 35 U.S.C. 120 is claimed.

The Examiner is requested to return a copy of the above list of pending applications indicating which references were considered with the next office communication.

It is requested that the information disclosed herein be made of record in this application.

Method of payment:

☐ A check for the fee noted above is enclosed, or the fee has been included in the check with the accompanying Reply. A copy of this Statement is enclosed.

☐ Please charge Deposit Account 08-0380 in the amount of \$[ ]. A copy of this Statement is enclosed.

☒ Please charge any deficiency in fees and credit any overpayment to Deposit Account 08-0380.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Mary K. Murray  
Mary K. Murray

Registration No.: 47,813

Telephone: (978) 341-0036

Facsimile: (978) 341-0136

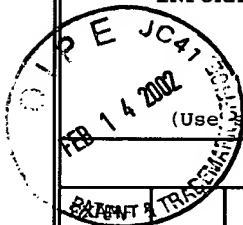
Concord, MA 01742-9133

Dated: January 22, 2002

PTO-1449 REPRODUCED				ATTORNEY DOCKET NO. 2831.2003-000		APPLICATION NO. 09/960,244	
INFORMATION DISCLOSURE CITATION IN AN APPLICATION  January 18, 2002 (Use several sheets if necessary)				APPLICANT Tony W. Ho, et al.		RECEIVED FEB 20 2002 TECH CENTER 1600/2900	
				FILING DATE Sept. 21, 2001			
U.S. PATENT DOCUMENTS							
EXAM- INER INI- TIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE IF APPROPRIATE
	AA	5,061,620	Oct. 29, 1991	Tsukamoto, A. et al.	435	7.21	
	AB	5,197,985	Mar. 30, 1993	Caplan, A.I. et al.	623	16	
	AC	5,486,359	Jan. 23, 1996	Caplan, A.I. et al.	424	93.7	
	AD	5,591,625	Jan. 7, 1997	Gerson, S.L. et al.	435	240.2	
	AE	5,728,581	Mar 17, 1998	Schwartz, R.M. et al.	435	385	
	AF	5,736,396	Apr. 7, 1998	Bruder, S.P. et al.	435	366	
	AG	5,811,094	Sept. 22, 1998	Caplan, A.I. et al.	424	93.7	
	AH	5,942,225	Aug. 24, 1999	Bruder, S.P. et al.	424	93.7	
	AI	5,962,323	Oct. 5, 1999	Greenburger, J.S. et al.	435	384	
	AJ	6,184,035	Feb 6, 2001	Csete, M. et al.	435	377	
FOREIGN PATENT DOCUMENTS							
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO
	AL	WO 00/69448	23 Nov 2000	PCT			X
	AM	WO 01/78753	25 Oct 2001	PCT			X
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)							
	AR	Akiyomo, Y. et al., "Functional Repair of Demyelinated Spinal Cord Axons in the Adult Rat by Transplantation of Clonal Neural Stem Cells Derived From Adult Human Brain," <i>Society for Neuroscience Abstracts</i> 25: Abstract 86.9 (1999).					
	AS	Azizi, S. A., et al., "Engraftment and migration of human bone marrow stromal cells implanted in the brains of albino rats-similarities to astrocyte grafts," <i>Proc. Natl. Acad. Sci. USA</i> 95: 3908-3913 (1998).					
	AT	Azizi, S. A., "Exploiting Non-neural Cells to Rebuild the Nervous System: From Bone Marrow to Brain," <i>The Neuroscientist</i> 6(5): 353-361 (2000).					
	AU	Bianco, P., et al., "Bone Marrow Stromal Stem Cells: Nature, Biology, and Potential Applications," <i>Stem Cells</i> 19: 180-192 (2001).					
	AV	Chopp, M., et al., "Spinal cord injury in rat: treatment with bone marrow stromal cell transplantation," <i>NeuroReport</i> 11(13): 3001-3005 (2000).					
EXAMINER				DATE CONSIDERED			

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FOREIGN PATENT DOCUMENTS					
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)					
	AW	Colter, D. C. et al., "Rapid expansion of recycling stem cells in cultures of plastic-adherent cells from human bone marrow," <i>Proc. Natl. Acad. Sci. USA</i> 97(7): 3213-3218 (2000).			
	AX	Coyle, A.J., et al., "Human Mesenchymal Stomal Cells Can Differentiate into Oligodendrocyte Lineage in Transplantation Experiments with MD Rats," <i>Soc. for Neurosci. Abs.</i> 26: Abstract 415.11 (2000).			
	AY	Eglitis, M. A., et al., "Hematopoietic cells differentiate into both microglia and macroglia in the brains of adult mice," <i>Proc. Natl. Acad. Sci. USA</i> 94: 4080-4085 (1997).			
	AZ	Ferrari, G., et al., "Muscle Regeneration by Bone Marrow-Derived Myogenic Progenitors," <i>Science</i> 279: 1528-1530 (1998).			
	AR2	Himes, B. T. et al., "Grafting human bone marrow stromal cells into injured spinal cord of adult rats," <i>Society for Neuroscience Abstracts</i> 25: Abstract 86.11 (1999).			
	AS2	Kopen, G. C., et al., "Marrow stromal cells migrate throughout forebrain and cerebellum, and they differentiate into astrocytes after injection into neonatal mouse brains," <i>Proc. Natl. Acad. Sci. USA</i> 96: 10711-10716 (1999).			
	AT2	Li, J., et al., "Nontransformed colony-derived stromal cell lines from normal human marrows. II. Phenotypic characterization and differentiation pathway," <i>Experimental Hematology</i> 23: 133-141 (1995).			
	AU2	Liechty, K. W., et al., "Human mesenchymal stem cells engraft and demonstrate site-specific differentiation after <i>in utero</i> transplantation in sheep," <i>Nature Medicine</i> 6(11): 1282-1286 (2000).			
	AV2	Majumdar, M .K., et al., "Phenotypic and Functional Comparison of Cultures of Marrow-Derived Mesenchymal Stem Cells (MSCs) and Stromal Cells," <i>J. Cell. Phys.</i> 176: 57-66 (1998).			
	AW2	Pereira, M. K., et al., "Cultured adherent cells from marrow can serve as long-lasting precursor cells for bone, cartilage, and lung in irradiated mice," <i>Proc. Natl. Acad. Sci. USA</i> 92: 4857-4861 (1995).			
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		FILING DATE Sept. 21, 2001				GROUP 1633
U.S. PATENT DOCUMENTS						
PATENT INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE IF APPROPRIATE
OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)						
AX2	Phinney, D. G., et al., "Donor Variation in the Growth Properties and Osteogenic Potential of Human Marrow Stromal Cells," <i>J. Cell. Biochem.</i> 75: 424-436 (1999).					
AY2	Phinney, D. G., et al., "Plastic Adherent Stromal Cells From the Bone Marrow of Commonly Used Strains of Inbred Mice: Variations in Yield, Growth, and Differentiation," <i>J. Cell. Biochem.</i> 72: 570-585 (1999).					
AZ2	Pittenger, M. F., et al., "Multilineage Potential of Adult Human Mesenchymal Stem Cells," <i>Science</i> 284: 143-147 (1999).					
AR3	Prockop, D. J., "Marrow Stromal Cells as Stem Cells for Nonhematopoietic Tissues," <i>Science</i> 276: 71-74 (1997).					
AS3	Roisen, F. J., et al., "Murine and Human Adult Olfactory Neuroepithelial Stem Cells," <i>Society for Neuroscience Abstracts</i> 26: Abstract 312.7 (2000).					
AT3	Sanchez-Ramos, J., et al., "Adult Bone Marrow Stromal Cells Differentiate into Neural Cells in Vitro," <i>Experimental Neurology</i> 164: 247-256 (2000).					
AU3	Sanchez-Ramos, J., et al., "Bone marrow stromal cells grafted into adult rat brain migrate, organize in architectonic patterns and express neuronal markers," <i>Neurology</i> 52(6 SUPPL. 2): A14, S06.001 (1999).					
AV3	Schwartz, E. J., et al., "Multipotential Marrow Stromal Cells Transduced to Produce L-DOPA: Engraftment in a Rat Model of Parkinson Disease," <i>Human Gene Therapy</i> 10: 2539-2549 (1999).					
AW3	Taupin, P., et al., "FGF-2-Responsive Neural Stem Cell Proliferation Requires CCg, a Novel Autocrine/Paracrine Cofactor," <i>Neuron</i> 28: 385-397 (2000).					
AX3	Woodbury, D., et al., "Adult Rat and Human Bone Marrow Stromal Cells Differentiate Into Neurons," <i>J. Neurosci. Res.</i> 61: 364-370 (2000).					
AY3	Woodbury, D., et al., "Adult Rat and Human Bone Marrow Stromal Cells Differentiate Into Neurons," <i>Society for Neuroscience Abstracts</i> 26: Abstract 312.9 (2000).					
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